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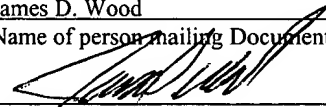
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Re:	Application of:	Romero et al.
	Serial No.:	09/882,786
	Filed:	June 15, 2001
	For:	Improved Testing Implementation for Signal Characterization
	Group Art Unit:	2858
	Examiner:	Walter Benson
	Our Docket No.:	00-573 (1003-0559)

REQUEST FOR REINSTATEMENT OF APPEAL

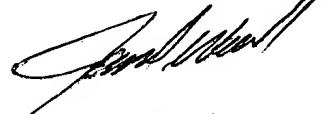
PURSUANT TO 37 C.F.R. § 1.193(b)(2)

Sir:

In connection with the Office Action mailed February 18, 2004 in the above-entitled patent application, the Applicants respectfully request reinstatement of an appeal. The Applicants filed a Notice of Appeal on September 16, 2003 and an Appeal Brief on November 17, 2003. On February 18, 2004, the Examiner issued a Non-Final Office Action. The Applicants have filed herewith a request for a one (1) month extension in which to file a response, from May 18, 2004 to June 18, 2004, and a Supplemental Brief on Appeal, along with three (3) copies of the supplemental brief.

The filing fee of an Appeal Brief (\$330.00) as required by 37 C.F.R. § 1.17(e) was previously authorized to be charged to Deposit Account No. 12-2252.

Respectfully Submitted,



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June 18, 2004
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SUPPLEMENTAL BRIEF ON APPEAL

Sir:

This is a request for reinstatement of an appeal under 37 CFR § 1.193(b)(2) to the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office from the rejection of claims 1-7, 11-17 and 21 of the above-identified patent application. These claims were indicated as rejected in an Office Action dated February 18, 2004, after the Applicants had filed their Appeal Brief on November 17, 2003. Three copies of this Supplemental Brief are

filed herewith. The fee required under 37 CFR § 1.17(f) (\$330.00) was previously authorized to be charged to Deposit Account 12-2252. Accordingly, it is believed that no additional fee is due at this time.

(1) REAL PARTY IN INTEREST

LSI Logic Corporation is the owner of this patent application, and therefore is the real party in interest.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this patent application.

(3) STATUS OF CLAIMS

Claims 1-7, 11-17 and 21 are pending in the application.

Claims 1-7, 11-17 and 21 stand rejected and form the subject matter of this appeal.

Claims 1-7, 11-17 and 21 are shown in the Appendix attached to this Appeal Brief.

(4) STATUS OF AMENDMENTS

Applicants filed an Appeal Brief on November 17, 2003. A Non-Final Office Action dated February 18, 2004 was issued by the Examiner after receipt of the Appeal Brief.

Applicants have filed no amendments after receipt of the February 18, 2004 Non-Final Office Action.

(5) SUMMARY OF THE INVENTION

The present invention relates to signal testing.

Claim 1 is directed to an apparatus for enabling signal testing in a test configuration. The apparatus includes a cable environment embodied as a portable housing structure including a plurality of cables exhibiting a plurality of lengths and impedances. (See nonlimiting examples in Application, element 10 of FIGs. 1-3). At least a portion of each of the cables is supported within the portable housing structure (see, e.g. FIGs. 2-3) and a user can selectively connect any one of the cables between a host device and a target device. (See nonlimiting examples at FIGs. 5-9).

With more specificity to nonlimiting exemplary embodiments, a schematic diagram of a cable environment with signal measurement connectors constructed according to principles of the present invention is shown in FIG. 1 of the Application. In FIG. 1, a cable environment 10 is constructed as a portable housing structure containing a plurality of different cables. The cable environment 10 may include a handle, wheels and/or other means (not shown in FIG. 1) by which a user may quickly and efficiently move the cable environment 10 between different signal testing locations. According to an exemplary embodiment, each of the cables included in the cable environment 10 is a different type. For example, it is contemplated that one or more of the following types of cables may be used: twisted pair round cable, flat ribbon cable, and flat ribbon twisted pair cable. Other types of cables may also be used in accordance with principles of the present invention. Moreover, the cable environment 10 may be constructed to include one or more backplanes. It may also be preferable to include cables from different cable manufacturers, such as Hitachi, Madison, Tempflex and/or other manufacturers. It may also be preferable to include cables of different lengths. For example, it is contemplated that cable

lengths of 1 meter, 12 meters, 25 meters and/or other lengths may be utilized. It may also be preferable to include cables of different impedances. For example, it is contemplated that low voltage differential (LVD) impedances in the range of 110 ohms to 135 ohms may be used. However, other impedance values may also be used. Accordingly, to ensure a wide test coverage, the cable environment 10 may include cables of various types, lengths, manufacturers and impedances. The number of such variations for the cable environment 10 is countless, with each one being within the inventive scope of the present invention. The specific parameter variations selected for a given embodiment of the present invention are simply a matter of design choice. (See Specification at p.5, line 12 to p.6, line 13, see also Fig. 1).

One or more signal measurement connectors 20 may be connected to both ends of the cable environment 10. Each of the signal measurement connectors 20 connects to a cable connector (not shown in FIG. 1) of the cable environment 10 to facilitate a signal testing process. In particular, each of the signal measurement connectors 20 provides one or more dedicated test measurement points to which a signal testing device such as an oscilloscope may be connected. In the exemplary embodiment of FIG. 1, there are four signal measurement connectors 20 coupled to each end of the cable environment 10. However, any number of signal measurement connectors could be utilized in accordance with principles of the present invention. (Application at p.6, line 15 to p.7, line 2).

A schematic diagram providing details of a first embodiment of a cable environment 10 constructed according to principles of the present invention is shown in FIG. 2. In particular, FIG. 2 shows an embodiment where the cable lengths and impedances are selected by a user physically connecting a corresponding cable between a host device and a target device. As will be discussed later herein, the present invention also includes an embodiment for the cable

environment 10 where a user may select a given cable length and/or impedance through an input to a mechanism such as a switch. In FIG. 2, the cable environment 10 includes four cables, wherein at least a portion of each cable is fixedly supported within the housing of the cable environment 10. Each of the cables exhibits a specific, fixed length and impedance. Again, the specific lengths and impedances used in practice are simply a matter of design choice. Also, it should be intuitive that any number of such cables may be used according to principles of the present invention. Each of the four cables in FIG. 2 includes a pair of cable connectors designated by reference numerals 11, 12, 13 and 14, respectively. According to a preferred embodiment, each of the cable connectors 11 to 14 connects to a signal measurement connector 20, as indicated in FIG. 1. (Specification at p.7, lines 4-20; See also FIG. 3).

A schematic diagram providing details of a second embodiment of a cable environment 10 constructed according to principles of the present invention is shown in FIG. 3. In particular, FIG. 3 shows an embodiment where the cable lengths and impedances are selectable through user inputs to a mechanism such as a switch. In FIG. 3, a pair of cable connectors 15 is provided for connection to corresponding signal measurement connectors 20 in the manner indicated in FIG. 1. It should be intuitive that any number of such cable connectors 15 may be provided in accordance with principles of the present invention. The cable environment 10 of FIG. 3 also includes four cables wherein at least a portion of each of the cables is embodied within the housing of the cable environment 10. Each of the cables has a different length and/or impedance. Any number of such cables may be included in accordance with principles of the present invention. Relays 16 are connected to the cables and operate as switches, thereby enabling a user to select any one of the cables. The relays 16 may be embodied on a PC board or card which connects to the individual cables. Link connectors 17 are provided for electrically

connecting the relays 16 to the cable connectors 15. The relays 16 may be controlled in a variety of ways such as by one or more external switches, or through software using a parallel port. In this manner, the user may conveniently select a cable having a desired length and/or impedance. (See Specification at p.7, line 22 to p.8, line 17; see also FIG. 3).

According to an alternative embodiment, a cable environment 10 providing variable cables lengths and/or impedances may be achieved using a custom backplane containing a plurality of switches. In this embodiment, the switches enable a user to select different path lengths and/or impedances. The backplane switches may be controlled by a plurality of external switches or by software using a parallel port. This embodiment also enables a user to conveniently select a cable having a desired length and/or impedance. However, since the characteristics of a backplane are different from that of a physical cable, this embodiment requires signal characterization on several cable and backplane designs. Also, the switches utilized in this embodiment should be selected so as not to create an excessive impedance mismatch, or regenerate an original test signal. The more switching capability provided to the user may create reflection problems due to multiple connections. Accordingly, these design issues should be taken into consideration when implementing this alternative embodiment.

Accordingly to another alternative embodiment, the cable environment includes a Y-configuration. (See Specification at p.12, line 15 to p.13, line 7; see also FIG. 6).

The above described invention thus provides a plurality of cables within a portable housing (a “cable environment”), one embodiment of which is clearly shown in FIG. 2. A user selects one of the plurality of cables and passes a signal through the selected cable *within* the cable environment. By evaluating the signal *before and after passing the signal through the cable environment*, the effect of the selected cable on the signal can be determined.

(6) ISSUES

Whether claims 1-5, 7, 11-15 and 17 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,941,115 to Nihart (hereinafter “Nihart”).¹

Whether claims 6, 16 and 21 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Nihart in view of U.S. Patent No. 6,341,358 to Bagg (hereinafter “Bagg”).

(7) GROUPING OF CLAIMS

The claims do not all stand or fall together.

Claims 1, 3-4, 11 and 13-14 form a first separately patentable group which is argued independently of the other claims for purposes of this appeal.

Claims 2 and 12 form a second separately patentable group which is argued independently of the other claims for purposes of this appeal.

Claims 5 and 15 form a third separately patentable group which is argued independently of the other claims for purposes of this appeal.

Claims 7 and 17 form a fourth separately patentable group which is argued independently of the other claims for purposes of this appeal.

Claims 6 and 16 form a fifth separately patentable group which is argued independently of the other claims for purposes of this appeal.

Claim 21 forms a sixth separately patentable group which is argued independently of the

¹ The Office Action states that claims 1-6 and 11-16 are rejected under 35 U.S.C. § 102(b), and that claims 6, 12 and 21 are rejected under 35 U.S.C. § 103(a). (Office Action at pages 2 and 4). However, the Examiner has alleged no basis for rejecting claims 6 and 16 under 35 U.S.C. § 102(b), while alleging a basis for claims 7 and 17. Moreover, the elements addressed by the Examiner under 35 U.S.C. § 103(a) are not present in claim 12, but are present in

other claims for purposes of this appeal.

(8) ARGUMENT

First Claim Grouping: Claims 1, 3-4, 11 and 13-14 Are Not Anticipated by Nihart

Discussion re: Patentability of Claim 1

1. Claim 1

Claim 1 recites the following limitations:

1. An apparatus for enabling signal testing in a test configuration, comprising:

a cable environment embodied as a portable housing structure including a plurality of cables exhibiting a plurality of lengths and impedances, wherein at least a portion of each of the cables is supported within the portable housing structure and a user can selectively connect any one of the cables between a host device and a target device.

Claim 1 thus requires a portable cable environment that provides a plurality of cables that can be selectively connected to.

2. Nihart Does Not Teach a Cable Environment as Claimed

In the February 18, 2004 office action, the Examiner claimed that Nihart disclosed “a cable environment embodied as a portable housing structure” citing to Nihart reference number 200 in FIGs. 2 and 3. (Non-Final Office Action at p.3). The device of Nihart cannot reasonably be described as a “cable environment”.

Reference number 200 of Nihart identifies a port tester. (Nihart at column 2, lines 49-50). The internal circuitry of the port tester 200 is shown in diagrammatic form in FIG. 4. (Id. at

claim 16. Accordingly, it appears the Examiner intended to reject claims 1-5, 7, 11-15 and 17 under 35 U.S.C. § 102(b) and claims 6, 16 and 21 under 35 U.S.C. § 103(a).

column 4, line 1). In operation, the port tester is connected downstream of a signal originating device. (Id. at column 3, lines 35-60). The port tester 200 then analyzes the data stream coming *into* the port tester 200 from the cable 123 to determine error conditions. (Id. at column 4, lines 58-60).

The port tester 200 of Nihart thus analyzes signals *received by* the port tester to determine if there are any problems *in the network* between the device initiating the signals and the port tester. Thus, the device of Nihart depends on an analysis of the signal as it appears at the port of the tester, without any interference from the device of Nihart. Accordingly, the device of Nihart is directed toward determining conditions *external* to the device of Nihart. In contrast, the present invention provides for analyses of the effect of the apparatus itself on a signal received from the network. Thus, the present invention is directed toward analyses of conditions created by the apparatus itself. Accordingly, the present cable environment is directed toward determining conditions *internal* to itself. A device that is directed toward analysis of conditions *external to the device* (Nihart) simply cannot be described as a device that provides for analyses of conditions *internal to the device* (the present invention). Therefore, Nihart does not disclose a cable environment as claimed.

Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Nihart does not disclose each and every element of Applicants' claim 1, Nihart does not anticipate claim 1. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 1.

3. Nihart Does Not Teach a Plurality of Cables as Claimed

In the February 18, 2004 office action, the Examiner claimed that Nihart disclosed "a

plurality of cables exhibiting a plurality of lengths and impedances” citing to Nihart at column 2, lines 56-64 and column 4, lines 5-10. (Non-Final Office Action at p.3). The Examiner has mischaracterized Nihart.

At column 2, lines 56-64, the only “cable” described by Nihart is twinaxial cable section 223, which is described as “short”. (Nihart at column 2, lines 62-64). At column 4, lines 5-10, Nihart describes the coupling of connectors 221 and 222 to “a terminal 411 having a balun with the characteristic impedance of a twinaxial line.” (Id. at column 4, lines 5-7). Nihart also describes the coupling of TTP connectors 225 and 226 “to a terminator having a balun selected for the impedance of this line”. (Id. at column 4, lines 8-10).

Accordingly, the only cable of the port tester 200 that is described in the citations relied upon by the Examiner is cable section 223. However, a single cable cannot be a “plurality” of cables as claimed, and a single cable cannot have “a plurality lengths and impedances” as claimed.² Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Nihart does not disclose each and every element of Applicants’ claim 1, Nihart does not anticipate claim 1. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 1.

4. Nihart Does Not Teach Connection of a Device Between Devices as Claimed

In the February 18, 2004 office action, the Examiner claimed that Nihart disclosed that “a user can selectively connect any one of the cables between a host device and a target device” citing to reference numbers 223 and 227 and column 4, lines 26-28. (Non-Final Office Action at

² To the extent the Examiner is alleging that the “baluns” of Nihart disclose “a plurality of cables” as claimed, the claim requires the plurality of cables to have both a plurality of lengths and a plurality of impedances. There simply is no discussion of the “length” of the baluns of Nihart. Therefore, this limitation is not disclosed by Nihart.

p.3). The Examiner has mischaracterized Nihart.

The Examiner has cited a description of a three pole switch in support of his allegation. The three pole switch simply selects one of two terminals as input for the decoder 430. (Nihart at column 4, lines 26-30). The reference numbers cited by the Examiner merely show a twinaxial cable section 223 (Id. at column 2, lines 62-64) and another item which is not even identified in the specification of Nihart. There is no mention whatsoever of a connection of the device of Nihart *between* a host and target device. Rather, Nihart clearly describes disconnecting a cable from a port, and connecting the port tester to the port. (Nihart at column 3, lines 35-38). Nihart also discloses that instead of being connected to a device, the port tester can be connected to a cable. (Id. at column 3, lines 60-63). The device of Nihart is thus connected to *either* a device *or* a cable. However, Nihart *does not* disclose connecting the port tester to *both* a cable and a device *at the same time*. Therefore, the device of Nihart is configured *to receive* a signal. It does not pass the received signal back into the network, to another device. In contrast, the invention as claimed in claim 1 allows a signal to be received from one device in a network, and passed back into the network to another device.

Connection of a device *to a single component* cannot reasonably be interpreted as connection of a device *between two components* as claimed. Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Nihart does not disclose each and every element of Applicants' claim 1, Nihart does not anticipate claim 1. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 1.

5. Conclusion as to Claim 1

For all of the above reasons, Nihart fails to disclose each and every element of Applicants' claim 1 as required to show anticipation under 35 U.S.C. § 102. Therefore, Nihart does not anticipate claim 1. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 1 for all of the above reasons.

Discussion re: Patentability of Claims 3 and 4

Claims 3 and 4 stand rejected as allegedly being anticipated by Nihart. Claims 3 and 4 depend from and incorporate all of the limitations of claim 1. Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the limitations of claims 3 and 4 are not disclosed by Nihart. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claims 3 and 4.

Discussion re: Patentability of Claim 11

1. Claim 11

Claim 11 recites the following limitations:

11. A method for enabling signal testing in a test configuration, comprising steps of:
 - moving a cable environment to a location corresponding to the test configuration, wherein the cable environment is embodied as a portable housing structure including a plurality of cables exhibiting a plurality of lengths and impedances; and
 - selectively connecting any one of the cables of the cable environment between a host device and a target device.

Claim 11 is a method claim. However, the recited steps require the use of a device that includes all of the limitations discussed above with respect to claim 1. Therefore, for all of the reasons set forth above with respect to claim 1, it is respectfully submitted that the steps of claim

11 are not disclosed by Nihart. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 11.

Discussion re: Patentability of Claims 13 and 14

Claims 13 and 14 stand rejected as allegedly being anticipated by Nihart. Claims 13 and 14 depend from and incorporate all of the limitations of claim 11. Accordingly, for at least the same reasons as those set forth above in connection with claim 11, it is respectfully submitted that the limitations of claims 13 and 14 are not disclosed by Nihart. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claims 13 and 14.

Second Claim Grouping:

Claims 2 and 12 Are Not Anticipated by Nihart

Discussion re: Patentability of Claim 2

1. Claim 2

Claim 2 recites the following limitations:

2. The apparatus of claim 1, further comprising at least one signal measurement connector which is connectable to the cable environment, the at least one signal measurement connector including one or more test measurement points to enable collection of signal testing results.

Claim 2 thus requires, in addition to the limitations of claim 1, a signal measurement connector that allows another device to be connected to the signal measurement connector so as to obtain signal test results.

2. Claim 2 Includes the Limitations of Claim 1

Claim 2 depends from and incorporates all of the limitations of claim 1. Accordingly, for

at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the limitations of claim 2 are not disclosed by Nihart. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 2.

3. Nihart Does Not Provide for Connection of Another Test Device

In the February 18, 2004 office action, the Examiner claimed that Nihart disclosed “at least one signal measurement connector ... including one or more test measurement points...” citing to reference number 221, FIG. 3, and column 3, lines 35-44. (Non-Final Office Action at p.3). The Examiner has mischaracterized Nihart.

Reference number 221 in FIG. 3 identifies a threaded female twinaxial connector. (Nihart at column 2, lines 56-59). Connector 221 is used to connect the port tester 200 to a port or cable to be tested. (Id. at column 3, lines 35-38 and 60-63). The port and cable are part of a conventional data processing system. (Id. at column 2, lines 4-15 and FIG. 1).

A connector used to connect the port tester of Nihart to a system to be tested simply is not disclosure of a connector to which *another signal testing device can be connected*. Therefore, for all of the above reasons, Nihart fails to disclose each and every element of Applicants’ claim 2 as required to show anticipation under 35 U.S.C. § 102. Therefore, Nihart does not anticipate claim 2. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 2.

4. Conclusion as to Claim 2

For all of the above reasons, it is respectfully submitted that Nihart fails to disclose each and every element of Applicants’ claim 2 as required to show anticipation under 35 U.S.C. §

102. Accordingly, the Board of Appeals is respectfully requested to reverse the rejection of claim 2.

Discussion re: Patentability of Claim 12

Claim 12 is a method claim that depends from, and includes all of the limitations of, claim 11. Additionally, the step added by claim 12 requires the use of a signal measurement connector such as was discussed above with respect to claim 2. Therefore, for all of the reasons set forth above with respect to claims 11 and 2, it is respectfully submitted that the steps of claim 12 are not disclosed by Nihart. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 12.

Third Claim Grouping:

Claims 5 and 15 Are Not Anticipated by Nihart

Discussion re: Patentability of Claim 5

1. Claim 5

Claim 5 recites the following limitations:

5. The apparatus of claim 1, wherein the cable environment includes a switch enabling the user to select a cable of a particular length and impedance.

Claim 5 thus requires, in addition to the limitations of claim 1, a switch that allows selection of a cable of a desired length and impedance.

2. Claim 5 Includes the Limitations of Claim 1

Claim 5 depends from and incorporates all of the limitations of claim 1. Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully

submitted that the limitations of claim 5 are not disclosed by Nihart. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 5.

3. Nihart Does Not Disclose A Switch as Claimed

In the February 18, 2004 office action, the Examiner claimed that Nihart disclosed “a switch enabling a user to select a cable of a particular length and impedance” citing to column 4, lines 26-28. (Non-Final Office Action at p.4). The Examiner has mischaracterized Nihart.

The switch identified by the Examiner is test selector switch 231. As described by Nihart itself, switch 231 merely allows a user to connect “either the twinax data input 421 or the TTP data input 422 to an input 401 of a decoder 430.” (Nihart at column 4, lines 26-28). Nihart does not disclose any detail regarding the lengths of the wires or the impedances of the wires that may form the path between the test selector switch 231 and the twinax data input 421 or the TTP data input 422. Simply put, the length and impedance of the internal wiring is not a concern to the user of the device of Nihart. The user is merely selecting a type of connector that is needed for a particular test. Accordingly, there is no basis for the claim that Nihart discloses a switch that allows selection of a cable of a desired length and impedance because the user is not interested in the length and impedance of internal wires, and thus has no motivation to select an internal wire based upon its length and/or impedance.

A switch used to connect alternative receivers to internal circuitry is not disclosure of a switch allowing a user to select a particular cable with a particular length and impedance from amongst a plurality of cables within a cable environment. Therefore, for all of the above reasons, Nihart fails to disclose each and every element of Applicants’ claim 5 as is required to show anticipation under 35 U.S.C. § 102. Therefore, Nihart does not anticipate claim 5. Accordingly,

the Board of Appeals is respectfully requested to reverse this rejection of claim 5.

4. Conclusion as to Claim 5

For all of the above reasons, it is respectfully submitted that Nihart fails to disclose each and every element of Applicants' claim 5 as required to show anticipation under 35 U.S.C. § 102. Accordingly, the Board of Appeals is respectfully requested to reverse the rejection of claim 5.

Discussion re: Patentability of Claim 15

Claim 15 is a method claim that depends from, and includes all of the limitations of, claim 11. Additionally, the step added by claim 15 requires the use of a switch such as was discussed above with respect to claim 5. Therefore, for all of the reasons set forth above with respect to claims 11 and 5, it is respectfully submitted that the steps of claim 15 are not disclosed by Nihart. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 15.

Fourth Claim Grouping:

**Claims 7 and 17 Are Not
Anticipated by Nihart**

Discussion re: Patentability of Claim 7

1. Claim 7

Claim 7 recites the following limitations:

7. The apparatus of claim 1, wherein the test configuration is a Y-configuration.

Claim 7 thus requires, in addition to the limitations of claim 1, an apparatus that can be

used to enable signal testing in a Y-configuration, that is, a configuration wherein a test device is connected to three external devices in a system to be tested.

2. Claim 7 Includes the Limitations of Claim 1

Claim 7 depends from and incorporates all of the limitations of claim 1. Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the limitations of claim 7 are not disclosed by Nihart. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 7.

3. Nihart Does Not Disclose Y-configuration Testing

In the February 18, 2004 office action, the Examiner claimed that Nihart disclosed Y-configuration testing citing to reference numbers 221, 222, 225, 226, 411, 412, Fig. 4 and column 4, lines 5-10. (Non-Final Office Action at p.4). The Examiner has mischaracterized Nihart.

The Examiner points to the test selector switch 231 and the parallel terminators 410 and receiver circuits 420 that switch 231 may alternatively be connected with as showing a Y-configuration. As discussed in the present specification at page 12, lines 15-18 and FIG. 6, a Y-configuration is a configuration wherein the test device is simultaneously connected *between*, for example, three external devices in the system to be tested. The Examiner purports to see such a configuration by pointing to an internal circuit of a test device that includes an internal switch. Obviously, there can be no *external* devices *internal* to the test device.

Moreover, the switch 231 is provided to allow for *alternative* use of the connector 230. (Nihart at column 3, lines 35-38). There is simply no teaching that the switch 231 can connect to

three internal circuits *simultaneously*, and nothing in the disclosed circuitry suggests otherwise.

A three way switch *alternatively* connecting various *internal* circuits of a test device does not disclose a configuration wherein a test device is *simultaneously* connected to three *external* devices in a system to be tested. Therefore, for all of the above reasons, Nihart fails to disclose each and every element of Applicants' claim 7 as is required to show anticipation under 35 U.S.C. § 102. Therefore, Nihart does not anticipate claim 7. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 7.

4. Conclusion as to Claim 7

For all of the above reasons, it is respectfully submitted that Nihart fails to disclose each and every element of Applicants' claim 7 as required to show anticipation under 35 U.S.C. § 102. Accordingly, the Board of Appeals is respectfully requested to reverse the rejection of claim 7.

Discussion re: Patentability of Claim 17

Claim 17 is a method claim that depends from, and includes all of the limitations of, claim 11. Additionally, the step added by claim 17 requires the method to be performed in a Y-configuration such as was discussed above with respect to claim 7. Therefore, for all of the reasons set forth above with respect to claims 11 and 7, it is respectfully submitted that the steps of claim 17 are not disclosed by Nihart. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 17.

Fifth Claim Grouping:**Claims 6 and 16 Are Not Obvious
over Nihart in View of Bagg***Discussion re: Patentability of Claims 6 and 16***1. The Combination of References is Not Adequately Supported**

The Examiner claimed that Nihart taught most of the claim elements in claims 6 and 16, and that Bagg disclosed SCSI signal testing. (Office Action at page 5). The Examiner alleges that modification of Nihart with Bagg would be motivated “in order to have the user directly control a number of different types of tests to ensure bus is functioning properly.” (Id.). The line of reasoning provided by the Examiner does not lead to a motivation to combine references.

The Examiner claims that a general desire to perform different types of test leads to a motivation to design a single device that can perform all of the tests. However, the Examiner has failed to provide a causal connection between the alleged motivation and the combination arrived at by the Examiner. A user that has a device according to Nihart and a device according to Bagg already has the ability to “control a number of different types of tests”. Therefore, the “need” is met. The Examiner has failed to allege any motivation whatsoever for the subsequent step of combining the two devices into a single device. There simply is no alleged benefit to combining the two devices into one. Rather, as explained below, such a combination would require significant design effort and would negatively impact the size of the hand-held Nihart device.

Motivation to combine references may be found by a line of reasoning, however, the line of reasoning must be convincing. See MPEP at § 2144. The line of reasoning presented by the Examiner is not complete and does not provide a connection to the conclusion drawn by the Examiner. There simply is no need to combine the two devices into one device to be able to use

different tests. The two devices can easily be used individually. Thus, the line of reasoning is not convincing as required by MPEP § 2144. Accordingly, it is respectfully submitted that the Examiner has failed to provide rationale supporting the combination of Nihart and Bagg.

Therefore, the Examiner has failed to present a prima facie case of obviousness for claims 6 and 16 under 35 U.S.C. 103(a). Accordingly, the Board of Appeals is respectfully requested to reverse the rejection of claims 6 and 16.

2. The Combination of Nihart and Bagg is Improper

If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). The modification proposed by the Examiner would not allow the device of Nihart to remain a simple, small device as intended by Nihart.

An object of Nihart is to provide an inexpensive, physically small, hand held device. (Nihart at column 1, lines 40-47). The housing disclosed by Nihart is “[a]n oval cylindrical housing or casing 210 [that] is sized to fit easily into the hand, preferably about 27 cm high, and about 6.5 cm by 4 cm at the base end 211.” (Id. at column 2, lines 50-52). The sizing and positioning of elements are selected for ease of use. (Id. at column 3, lines 12-21). Thus, in accordance with another object of Nihart, the device is to be so easy to use that persons who are not data processing professionals can use the device. (Id. at column 1, lines 37-41).

The Examiner proposes modifying the small, easily used Nihart device to include the capabilities of the device of Bagg. As shown in FIG. 4 of Bagg, and explained at column 7 line 53 through column 10 line 44, the device of Bagg includes a significant number of switches and

status indicators, in addition to connections for various types of cables. The Examiner has failed to explain how his proposed redesign of Nihart would be accomplished without causing the Nihart device to become more complicated and larger. Obviously, the addition of a single capability necessarily complicates the Nihart device, and the additionally circuitry requires more space within a device. Thus, it is apparent from the description of the various modalities and controls provided in the Bagg device that a person that is not a data processing professional would be challenged to operate such a device. Moreover, it is obvious that the proposed modification of the Nihart device would result in a housing of a completely unacceptable size for the intended handheld device of Nihart. Therefore, as modified, Nihart would be unsatisfactory for its intended purposes.

Therefore, combination of Nihart and Bagg is improper. Accordingly, it is respectfully submitted that the Examiner has failed to present a prima facie case of obviousness for claims 6 and 16 under 35 U.S.C. 103(a). Accordingly, the Board of Appeals is respectfully requested to reverse the rejection of claims 6 and 16.

3. Claims 6 and 16 Depend From Allowable Claims

Claims 6 and 16 depend from and incorporate all of the limitations of claims 1 and 11, respectively. The proposed combination of the device of Nihart with the device of Bagg does not correct the deficiencies of Nihart regarding the elements discussed above with respect to claims 1 and 11. Therefore, the proposed combination does not arrive at the invention of claims 6 and 16. Accordingly, the Board of Appeals is respectfully requested to reverse the rejection of claims 6 and 16.

4. Conclusion as to Claims 6 and 16

For all of the above reasons, it is respectfully submitted that the Examiner has failed to present a prima facie case of obviousness for claims 6 and 16 under 35 U.S.C. 103(a).

Accordingly, the Board of Appeals is respectfully requested to reverse the rejection of claims 6 and 16.

Sixth Claim Grouping:

**Claim 21 Is Not Obvious
Over Nihart in View of Bagg**

Discussion re: Patentability of Claim 21

1. Claim 21

Claim 21 recites the following limitations:

21. The method of claim 11 wherein the selectively connecting step further comprises employing a switch to selectively connect any one of the cables of the cable environment between a host device and a target device.

Claim 21 thus requires, in addition to the limitations of claim 11, a step of using a switch to connect an internal cable between two external devices.

2. Claims 21 Depends From An Allowable Claim

Claims 21 depends from and incorporates all of the limitations of claim 11. The proposed combination of the device of Nihart with the device of Bagg does not correct the deficiencies of Nihart regarding the elements discussed above with respect to claim 11.

Therefore, the proposed combination does not arrive at the invention of claim 21. Thus, the proposed combination does not establish a prima facie case of obviousness under 35 U.S.C. § 103 with regard to the invention defined in claim 21. As a result, claim 21 is allowable over

Nihart and Bagg. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 21.

3. The Discussion of Claim 16 Applies to Claim 21

While relying upon Nihart for most of the claim elements in claim 21, the Examiner identifies Bagg for disclosing a switch to selectively connect any one of the cables in the cable environment between a host device and a target device. (Office Action at page 5). This is the same combination discussed above with respect to claims 6 and 16. Therefore, for all of the reasons set forth above with respect to claim 16, it is respectfully submitted that the Examiner has failed to present a prima facie case of obviousness for claim 21 under 35 U.S.C. 103(a). Accordingly, the Board of Appeals is respectfully requested to reverse the rejection of claim 21.

4. Bagg Does Not Disclose a Switch as Claimed

While relying upon Nihart for most of the claim elements in claim 21, the Examiner relied on Bagg for teaching a switch to connect a cable between a host device and a target device, citing to column 8, lines 42-50. (Office Action at p. 5). The Examiner has mischaracterized Bagg.

Bagg discloses two switches at the passage cited by the Examiner. One switch is a power switch that allows the unit to be turned on or off. Obviously, this switch does not connect a cable between a host device and a target device. The second switch is described as a “bus-type” switch shown as reference number 68. As described by Bagg, this switch merely “cycles through” the input connectors that are provided in the device of Bagg. (Bagg at column 8, lines 44-48). Significantly, the passage cited by the Examiner does not disclose that the switch has

any connection whatsoever with an *output* connector. Thus, the switch of Bagg is simply used to select between *inputs*. There is no disclosure of using the switch to connect a cable *between* a host device and a target device.

Therefore, the combination proposed by the Examiner fails to arrive at the invention claimed in claim 21. Thus, the proposed combination does not establish a prima facie case of obviousness under 35 U.S.C. § 103 with regard to the invention defined in claim 21. As a result, claim 21 is allowable over Nihart and Bagg. Accordingly, the Board of Appeals is respectfully requested to reverse this rejection of claim 21.

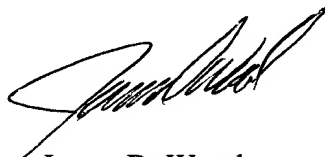
4. Conclusion as to Claim 21

For all of the above reasons, it is respectfully submitted that the Examiner has failed to present a prima facie case of obviousness for claim 21 under 35 U.S.C. 103(a). Accordingly, the Board of Appeals is respectfully requested to reverse the rejection of claim 21.

(9) CONCLUSION

For all of the foregoing reasons, claims 1-5, 7, 11-15 and 17 are not unpatentable under 35 U.S.C. § 102(b) and claims 6, 16 and 21 are not unpatentable under 35 U.S.C. § 103(a), and the Board of Appeals is respectfully requested to reverse the rejection of these claims.

Respectfully submitted,
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A handwritten signature in black ink, appearing to read 'James D. Wood', is written over a horizontal line.

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CLAIM APPENDIX

1. An apparatus for enabling signal testing in a test configuration, comprising:
a cable environment embodied as a portable housing structure including a plurality of cables exhibiting a plurality of lengths and impedances, wherein at least a portion of each of the cables is supported within the portable housing structure and a user can selectively connect any one of the cables between a host device and a target device.
2. The apparatus of claim 1, further comprising at least one signal measurement connector which is connectable to the cable environment, the at least one signal measurement connector including one or more test measurement points to enable collection of signal testing results.
3. The apparatus of claim 1, wherein the host device is a server.
4. The apparatus of claim 1, wherein the target device is a disk subsystem.
5. The apparatus of claim 1, wherein the cable environment includes a switch enabling the user to select a cable of a particular length and impedance.
6. The apparatus of claim 1, wherein the signal testing is SCSI signal testing.
7. The apparatus of claim 1, wherein the test configuration is a Y-configuration.

11. A method for enabling signal testing in a test configuration, comprising steps of:
- moving a cable environment to a location corresponding to the test configuration, wherein the cable environment is embodied as a portable housing structure including a plurality of cables exhibiting a plurality of lengths and impedances; and
- selectively connecting any one of the cables of the cable environment between a host device and a target device.
12. The method of claim 11, further comprising a step of collecting signal testing results by monitoring a signal measurement connector connected to the cable environment.
13. The method of claim 11, wherein the host device is a server.
14. The method of claim 11, wherein the target device is a disk subsystem.
15. The method of claim 11, wherein a user selects a particular cable of the cable environment for connection between the host device and the target device by input to a switch.
16. The method of claim 11, wherein the signal testing is SCSI signal testing.
17. The method of claim 11, wherein the test configuration is a Y-configuration.

21. The method of claim 11 wherein the selectively connecting step further comprises employing a switch to selectively connect any one of the cables of the cable environment between a host device and a target device.